

REMARKS/ARGUMENTS

The Examiner is thanked for the clarity and conciseness of the Office Action and for the citation of the references which have been studied with interest and care.

Claim Rejections - 35 U.S.C. §§ 102

Claims 11-13 and 16 were rejected under 35 U.S.C. 102(e) as being anticipated by Shapira et al. (US 2003/0162566 A1).

Shapira et al. discloses a system and method for improving polarization matching on a cellular communication forward link. According to Shapira et al., a polarized state of at least one signal received by a base station (BS) from a mobile station (MS) is described by a set of weighted signal parameters, which are applied to a signal transmitted by a base station such that the transmitted signal substantially matches the polarized state. Shapira et al. addresses the problem of providing “effective polarization matching on forward link transmissions to mitigate transmission losses due to the polarization mismatch between hand-held MSs and BSs.” See [0009] of Shapira et al.

Shapira et al. describes reducing polarization mismatch loss for an antenna having only a data channel. In contrast, Applicants’ antenna tracking technique uses orthogonal polarization in both the data and tracking channels to provide monopulse antenna tracking system designs that track the direction of arrival of a signal in a way that is independent of the polarization of the received signal. Shapira et al. does not relate to antenna signal direction tracking because the cellular networks described in Shapira et al. have a fixed pattern of beam positions and mobile users distributed in cells defined by the fixed antenna patterns comprising the base station.

With regard to claim 11, Shapira et al. does not disclose or suggest “processing orthogonally polarized tracking channel components of an incident signal to make a determination as to which of the orthogonally polarized tracking channel components is stronger; and using the determination to select a polarization of a data channel to reduce a polarization mismatch loss.”

With regard to claim 12, Shapira et al. does not disclose or suggest “determining which of two orthogonal polarization components of an incident signal is a stronger signal component; summing sequentially detected orthogonal polarizations to provide a tracking input; and selecting a polarization of a data channel depending upon the stronger signal component.

With regard to claim 13, Shapira et al. does not disclose or suggest "means for detecting orthogonally polarized signals of a tracking channel, determining which of the orthogonally polarized signals is stronger, and suppressing a cross polarization response of the tracking channel; and a controller configured to select a polarization of a data channel depending upon which of the orthogonally polarized signals is stronger."

With regard to claim 16, Applicants have carefully reviewed [0065 - 0077] of Shapira et al. and respectfully submit that this reference does not disclose or suggest a tracking receiver configured to switch between tracking channel inputs for the orthogonally polarized signals and to generate sequential orthogonal polarization outputs, a sequential summer configured to receive the sequential orthogonal polarization outputs and to provide an antenna control unit (ACU) input signal, and a controller configured to select the polarization of a data channel based on the higher signal level from the sequential orthogonal polarization outputs.

For the reasons discussed above, withdrawal of this rejection is respectfully requested.

CONCLUDING REMARKS

Applicants submit that the application is in condition for allowance. Concurrence by the Examiner and early passage of the application to issue are respectfully requested.

Any additional fees which are required in connection with this communication and which are not specifically provided for herewith are authorized to be charged to deposit account no. 50-0651. Any overpayments are also authorized to be credited to this account.

Respectfully submitted,



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Peter L. Holmes
Reg. No. 37,353
Attorney for Applicants

HENRICKS, SLAVIN & HOLMES LLP
840 Apollo Street, Suite 200
El Segundo, California 90245-4737
Telephone: (310) 563-1454
Facsimile: (310) 563-1460